

REMARKS

The Examiner has rejected claims 1 and 5-9 under 35 U.S.C. § 103(a) as being unpatentable over McGahay et al U.S. Patent No. 5,712,702. Claims 10-13 are rejected under § 103(a) as being unpatentable over McGahay et al., and further in view of Chow et al. U.S. Patent No. 6,872,322. Claims 14-17, 20-21 and 30 are rejected under § 103(a) as being unpatentable over McGahay et al., and further in view of Tsai et al. U.S. Patent No. 6,592,817. Claim 18 is rejected under § 103(a) as being unpatentable over McGahay et al., and further in view of Kim et al. U.S. Patent No. 6,436,303. Claims 23-24 are rejected under § 103(a) as being unpatentable over McGahay et al., and further in view of Nakata et al. U.S. Patent No. 5,989,928.

Applicants respectfully traverse all rejections under § 103 over the primary reference, McGahay et al., alone or in view of any of the secondary references, Chow et al., Tsai et al., Kim et al. or Nakata et al. McGahay et al. alone or in combination with one or more of the secondary references, fail to teach or suggest a claimed element. Claim 1, from which all other claims depend (directly or indirectly), recites in part: "exposing the system component to a reactant gas during a process, wherein the *system component consists of a material* selected from quartz, Al₂O₃, SiN, or SiC, and wherein the reactant gas is capable of *etching the system component material to form an erosion product thereof*; monitoring the processing system for release of *the erosion product* during the process." As recited in the claims, *the erosion product* that is being monitored is a product from erosion of *the system component material* by the reactant gas, where the system component material consists of quartz, Al₂O₃, SiN, or SiC. This differs from prior art processes such as McGahay et al. that monitor emissions from deposits formed on the system components that contain an emitter (marker) element.

Examiner points to a system component (chamber wall) in McGahay et al. as being made of silica (quartz), and points to a marker element (10) formed on the system component (i.e., a material deposited thereon), and then points to monitoring of the emissions

(erosion) product from the marker element. McGahay et al. do not monitor for erosion products of the system component itself, which system component consists of quartz, Al_2O_3 , SiN, or SiC.

In Col. 2, lines 25-34, McGahay et al. disclose the that the marker element may be selected from xenon, krypton, and a phosphorus-containing compound, and the process includes sensing a peak emission intensity of the marker element in a subsequent return of the marker element emission intensity to a base line value. This is not the same as monitoring for erosion products of quartz, Al_2O_3 , SiN, or SiC generated by erosion of the system component material itself by the reactant gas. While the prior art utilizes emissions from materials other than the system component material to determine the end-point for a process and avoid erosion of the system component, the claimed invention utilizes erosion product emissions based on erosion of the system component to determine the end-point. This is a fundamental patentable difference not taught or suggested by the prior art and not appreciated by Examiner. Further, none of the secondary references cure the deficiency of the primary reference. Because the prior art does not teach or suggest the invention, as claimed, there is no proper *prima facie* case of obviousness, and Applicants therefore respectfully request withdrawal of all rejections.

In view of the foregoing remarks, Applicants respectfully believe this case is in condition for allowance and respectfully request allowance of the pending claims. If the Examiner believes any detailed language of the claims requires further discussion, the Examiner is respectfully asked to telephone the undersigned attorney so that the matter may be promptly resolved. The Examiner's prompt attention to this matter is appreciated.

Application No. 10/674,703
Response dated April 30, 2008 to
Office Action dated December 31, 2007

Applicants are of the opinion that a one-month extension of time is due, and Applicants hereby petition for said extension. Payment of all charges due for this filing is made on the attached Electronic Fee Sheet. If any additional charges or credits are necessary to complete this communication, please apply them to Deposit Account No. 23-3000.

Respectfully submitted,

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